A new species of cotinga from southeastern Brazil

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On 24 October 1942 Pedro de M. Britto, working for the Brazilian Serviço de Estudos e Pesquisas Sobre a Febre Amarela, collected a cotinga near Teresópolis in the Serra dos Orgãos, in the State of Rio de Janeiro. The specimen, now in the collection of the Zoological Museum of the University of São Paulo, was identified as a Black-and-gold Cotinga *Tijuca atra* and placed with that species. It is a female and is quite similar to the female of *Tijuca atra,* though considerably smaller. In November 1972 Derek Goodwin and I noticed the specimen in the São Paulo collection, and later drew attention to its main peculiarities in our account of a field study of the Black-and-gold Cotinga (Snow & Goodwin 1974). Since then I have been able to re-examine the specimen, and through the kindness of Dr. H. F. de A. Camargo I was allowed to cut the end off one of its secondary feathers for analysis of its feather proteins and comparison with *Tijuca atra* and other cotingas. Since the result of this analysis, which has been carried out by Dr Alan Knox of Aberdeen University, shows that the bird is highly unlikely to be conspecific with *Tijuca atra,* it is appropriate that it should be named as a new species, as follows:

Tijuca condita sp. nov.

HOLOTYPE: Museu de Zoologia, Universidade de São Paulo, no. 33432, female, apparently adult, from Fazenda Guinle, Teresópolis, Rio de Janeiro, Brazil, approx. 22°27′S, 43°00′W; collected by Pedro de M. Britto, 24 October 1942.

DISTRIBUTION: Known only from the type locality.

DESCRIPTION OF HOLOTYPE: Upper parts including upper wing-coverts olive-green, suffused with yellow on the rump, crown duller than rest of upper parts (cf. *T. atra* female, in which upper parts are uniform, less bright olive-green with no yellow wash on rump). Underparts mainly olive-yellow, greyer on throat and brighter yellow on belly and under tail-coverts; under wing-coverts yellow (cf. *T. atra* female, in which underparts are less yellow throughout). Flight-feathers grey above, inner secondaries washed with olive-green, especially on outer edges; outer edges of all flight-feathers except inner secondaries pale blue-grey (cf. *T. atra* female, in which flight-feathers are all olive-green); primaries uniform grey below (not yellow-green at base of inner webs, as in *T. atra*). Tail grey, outer edges of feathers paler, some faintly washed with greenish (cf. *T. atra* female, in which the tail-feathers are all olive-green). Soft part colours: iris grey; bill and feet plumbeous ("olhos pardos; bico e pés plumbeos").

MEASUREMENTS OF HOLOTYPE: Wing chord 122 mm; tail 106 mm (all feathers of nearly equal length, outermost pair a little shorter than the others); tarsus 26.5 mm; culmen from posterior margin of nostril 14.5 mm; bill depth at level of anterior margin of nostril 7 mm. Wing formula (as apparent in folded wing): p 7 is longest primary, p 8 very slightly shorter, p 6 1 mm shorter; p 6–8 form the wing-tip; p 5 and p 9 equal in length; p 10 falls a little short of p 1.

DERIVATION OF NAME: from Latin *conditus*, stored away, hidden; referring to the fact that the type specimen remained stored away and unrecognised for 30 years after being collected.

TABLE 1

Measurements of *Tijuca condita* and *T. atra* compared

	Tijuca condita ♀ (type)	*Tijuca atra* ♀♀ (sample number in parentheses)
Wing	122	140–146 (10)
Tail	106	114–119 (7)
Tarsus	26.5	29–30 (6)
Culmen	14.5	15.5–18 (7)
Bill-depth	7	9, 9.5 (2)

Notes: Tarsus-length from intertarsal joint to last individed scute before toes. Culmen from posterior margin of nostril to tip. Bill-depth at level of anterior margin of nostrils.

ADDITIONAL REMARKS

In external characters this new bird is close to *Tijuca atra*, but smaller in all measurements (Table 1). The wing-shape is very similar; the bill shape is similar except that the culmen is less arched; and the tarsal scutellation is similar. The plumage colours are sufficiently like those of the female of *T. atra* to have led to its original misidentification, although the grey wings and tail are perfectly distinctive. The broad, somewhat angular shapes of the tips of the secondaries and tail-feathers strongly suggest that the bird is in adult plumage. Its sex is confirmed by the collector's drawing of the ovary (measuring c. 10 x 7 mm) on the label. The provisional allocation of the species to *Tijuca* thus seems reasonable on the basis of its external morphology. On zoogeographical grounds it is also reasonable, as *T. atra*, the only other member of the genus, is also a southeastern Brazilian montane endemic.

Electrophoresis of reduced and carboxymethylated feather-proteins (*S*CMK) from a wide variety of species has revealed species-specific patterns in all the cases examined (Knox 1980). Subspecies are only very rarely distinguishable and even then the differences are slight (Knox, pers. comm.). There is apparently no polymorphism in *S*CMK. Results from the analysis of cotinga feathers (Table 2) show that the *S*CMK pattern from the new bird is quite different from that of *Tijuca atra*, the magnitude of the difference being consistent with what would be expected from two quite distinct species. The similarity value obtained (0.76) suggests that it is justifiable to treat the new bird and *T. atra* as congeneric provisionally, but that they are not very closely related.

TABLE 2

Electrophoretic similarity values (*I*) for *S*CMK from *Tijuca condita* and 3 other cotinga species (see Knox (1980) for experimental details). Values of *I* vary 1 to 0; where $I = 1$, the electrophoretic patterns are identical, where $I = 0$, they are totally different

	Carpornis cucullatus	*Lipaugus vociferans*	*Tijuca atra*
Lipaugus vociferans	0.52		
Tijuca atra	0.55	0.77	
Tijuca condita	0.50	0.65	0.76

It is interesting that, whereas *Carpornis cucullatus* shows relatively low similarity values with the two *Tijuca* species and with *Lipaugus vociferans* (0.50–0.55), *L. vociferans* and *Tijuca atra* have a similarity value of 0.77, and *L. vociferans* and *T. condita* a value of 0.65. This suggests the possibility that *Tijuca* and *Lipaugus* may not be very distantly related. In this connection it may be significant that two montane *Lipaugus* species in the Andes (*cryptolophus* and *subalaris*) are similar in general colouration to females of *Tijuca*, that one of them (*subalaris*) has a grey tail like *T. condita*, and that both *Lipaugus vociferans* and *Tijuca atra* have lek displays in which the males advertise themselves primarily by far-carrying calls.

In October 1972, and again in November 1979, I spent several days studying cotingas and other forest birds in the Serra dos Orgãos, and a number of other ornithologists have watched birds in the same area in recent years. Nobody has reported any *Tijuca*-like bird apart from *T. atra*. The Fazenda Guinle, where *Tijuca condita* was collected, was a large property, now broken up, which included part of what is now the town of Teresópolis, at an altitude of about 800 m, and parts of what is now the Serra dos Orgãos National Park, at altitudes of 900 m and upwards. The upper limit of forest is at about 2000 m and the highest peak is about 2260 m. There is no record of the altitude at which the specimen was collected, but two considerations suggest that *Tijuca condita* may be a bird of high-altitude forest and that the unique specimen may either have been collected high up or, if not, may have been a straggler from a higher altitude. First, the upper parts of the forest of the Serra dos Orgãos are comparatively difficult of access and much less time must have been spent there than in the lower parts by observers competent to detect a new species; and secondly, bird species occurring at lower altitudes in the southeastern Brazilian mountains generally have wider geographical ranges than those confined to high altitudes. *Tijuca atra,* for example, is one of the species that is confined to high altitudes and it has one of the most limited ranges of all southeastern Brazilian endemics.

The rediscovery of the new *Tijuca*, and especially of the unknown male, should be a challenge to anyone who has the opportunity to do field work in the Serra dos Orgãos. If it is a high-altitude species it is unlikely to be extinct, since much undisturbed forest remains in the higher parts of the Serra; but on the less likely assumption that it is, or was, a bird of the lower-level forests of which only remnants now exist, its survival must be more doubtful.

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